

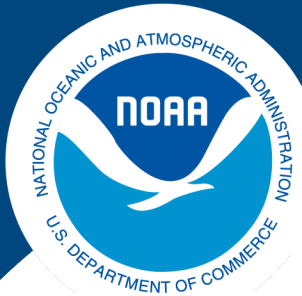


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6.1 Prioritizing CPS and HMS Assessments

Dale Sweetnam
Fisheries Resources Division
Southwest Fisheries Science Center

July 30, 2014



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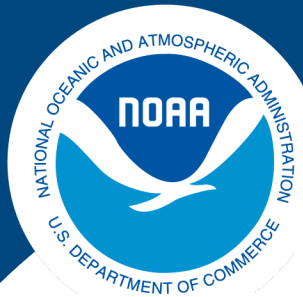
6.1 Prioritizing CPS and HMS Assessments

Theme IV: Organization and Priorities

Is the Center's program organization effective at accomplishing needed assessments according to a set of assessment priorities, including:

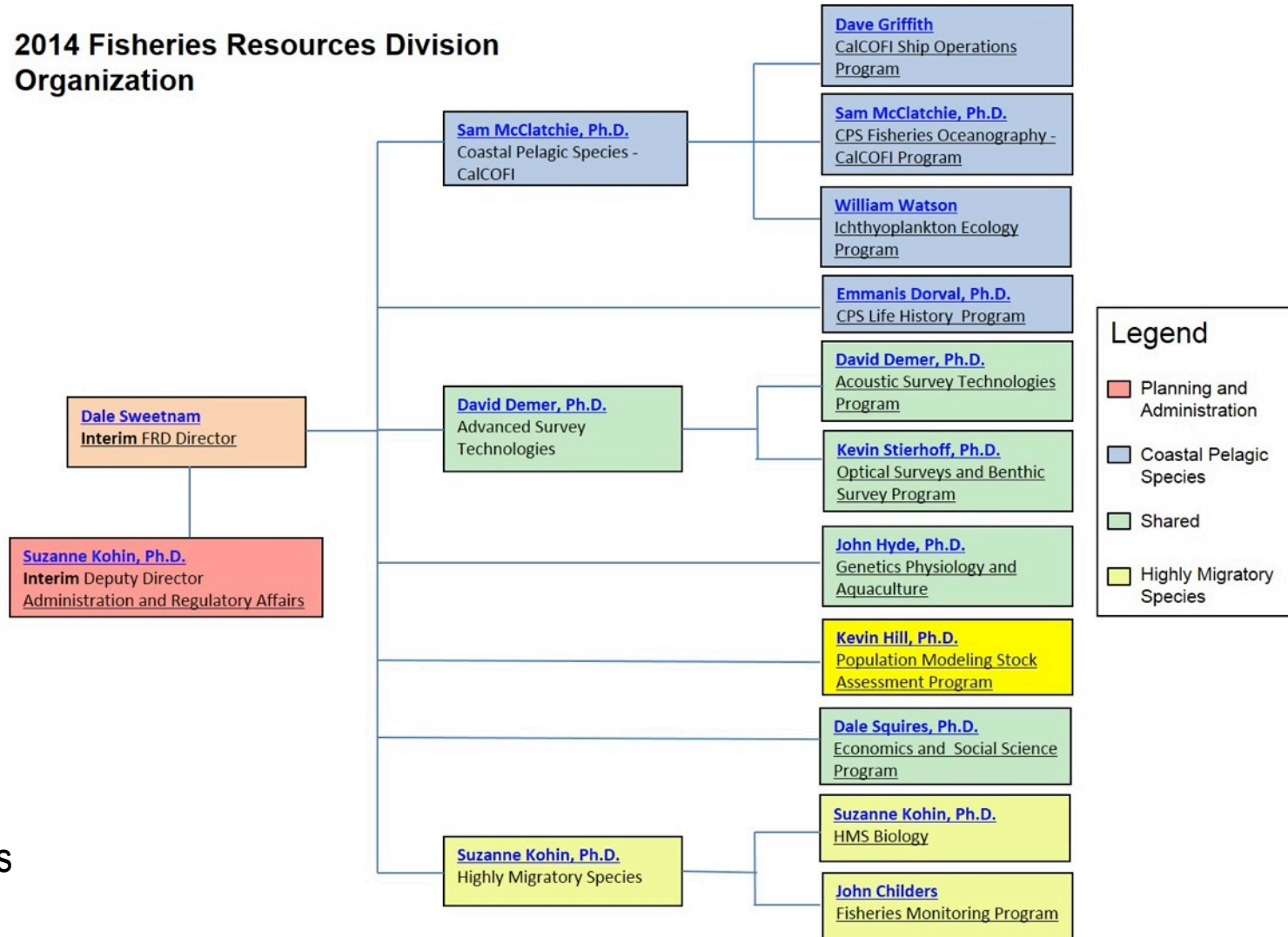
- program structure,
- staffing,
- funding?

Program Structure: Portfolio Balance and Suitability

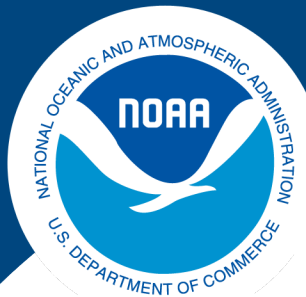


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2014 Fisheries Resources Division Organization



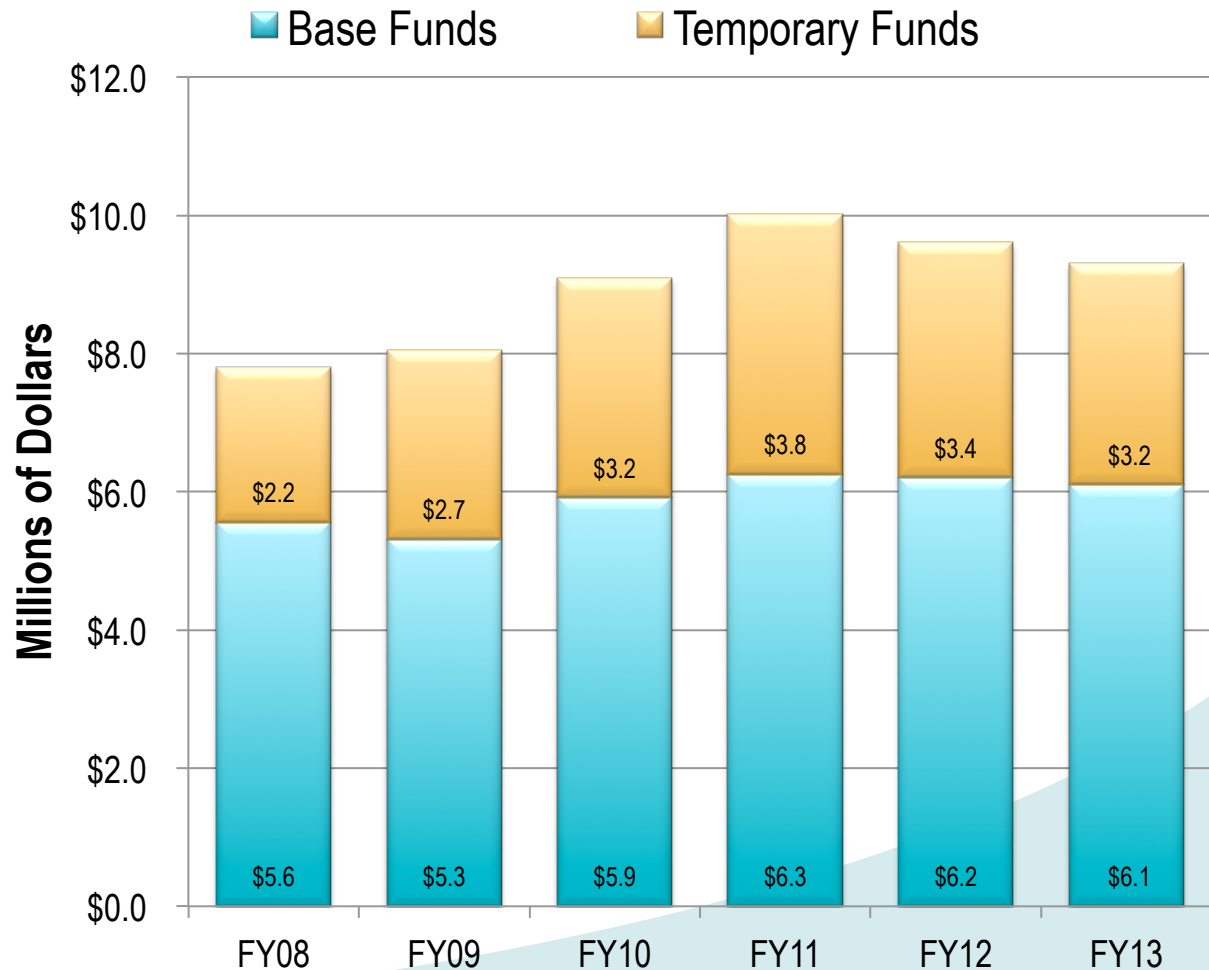
- 39 FTEs
- 40+ Contractors

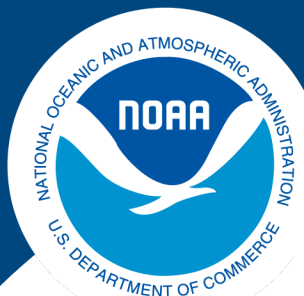


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- Temporary Funds range from 30-38% of the total FRD budget, 34% in 2013
- FY13 FRD Budget \$ 9.4 Million

Fisheries Resources Division Budget FY08-FY13

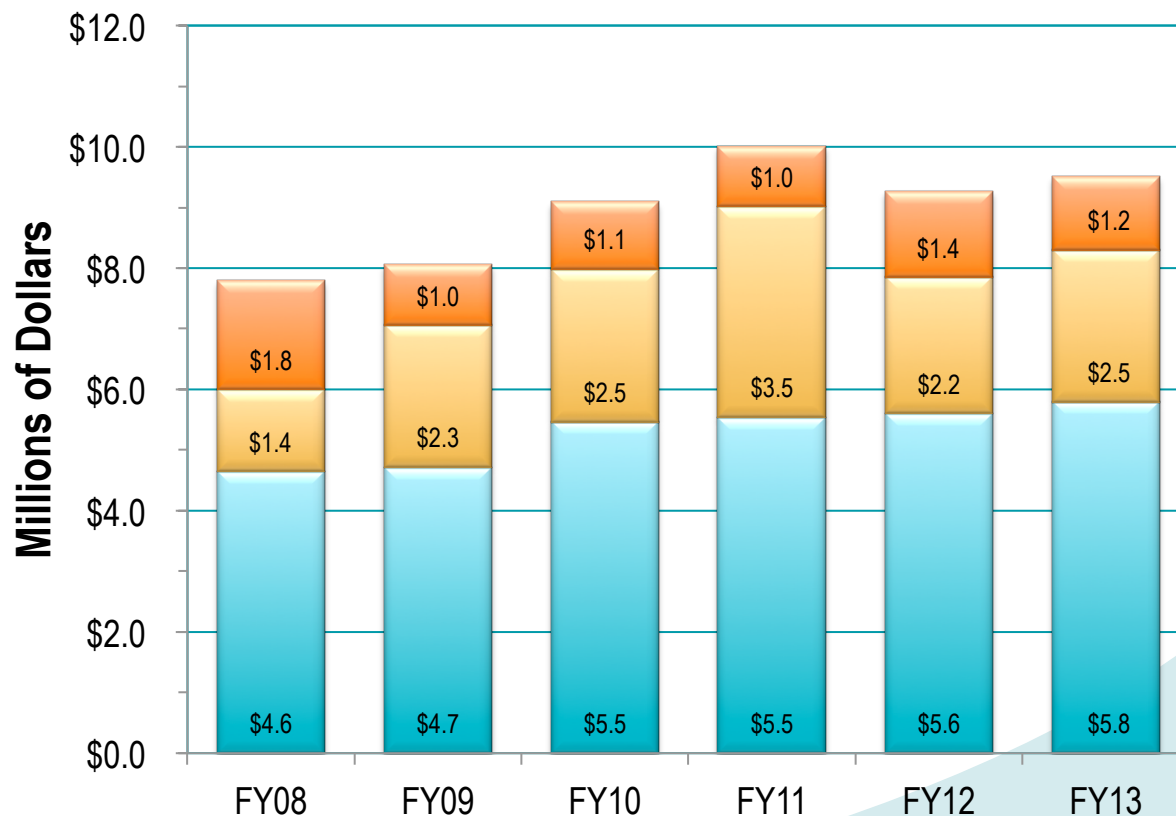




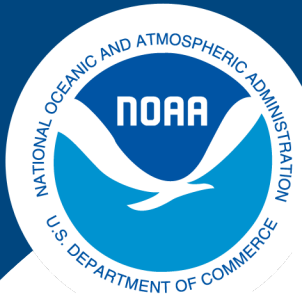
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Fisheries Resources Division Budget FY08-FY13

Salaries, Benefits, Overtime Contracts Other (Travel, Equip, Grants)



- Contracts (mainly temporary staff) made up from 17-35% of total FRD budget
- 2013 Contracts made up 27% of FY13 Budget



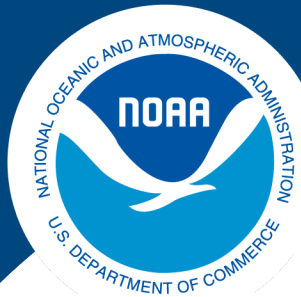
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6.1 Prioritizing CPS and HMS Assessments

- Describe approaches and constraints to prioritizing need, frequency and level of assessments, e.g. assessment terms of reference via the Council process;
- Describe how Council, domestic and international stock assessment needs and reviews are balanced;
- Describe analytical and review demand; client and stakeholder involvement in priority setting; balance of schedule and scale for assessments against needs;
 - balance against competing needs;
 - bottlenecks;
 - research prioritization and balance

Program Structure: Portfolio Balance, Suitability



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CPS-HMS
Population
Dynamics Team:

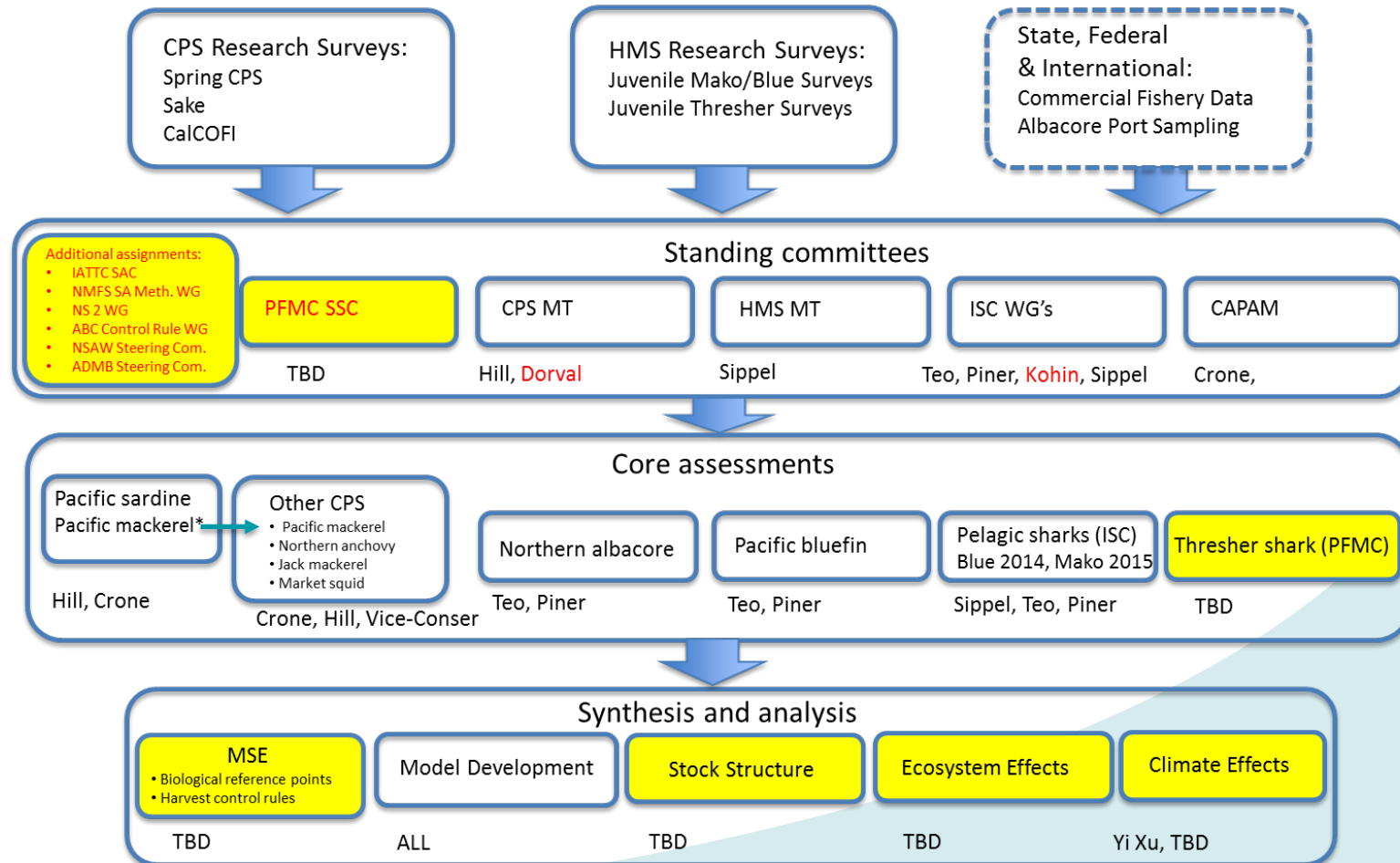
4 FTEs

1 Vacant Position

1 Contractor

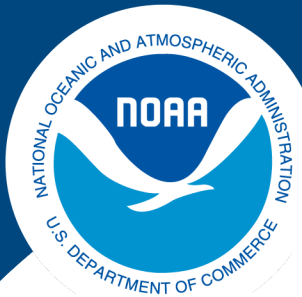
CPS-HMS Population Dynamics Team

Supervisor: Kevin Hill



Red = staff from other teams

Unassigned



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6.1 Prioritizing CPS Assessments

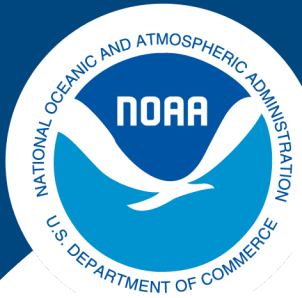
Current Council process – Groundfish and CPS TOR

- Stock assessments for Pacific sardine and Pacific mackerel are conducted annually



Proposed Council Process (June 2014)

- Stock assessments for Pacific Sardine conducted annually, with full assessments occurring every third year, and update assessments during interim years
- Full stock assessments for Pacific mackerel are conducted every four years, with catch-only projection estimates also conducted two years after every full assessment

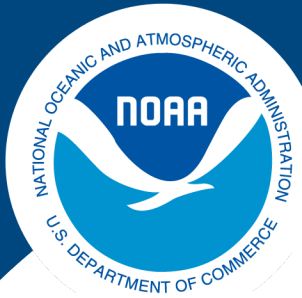


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6.1 Prioritizing CPS Assessments

PFMC Groundfish and CPS TOR priorities:

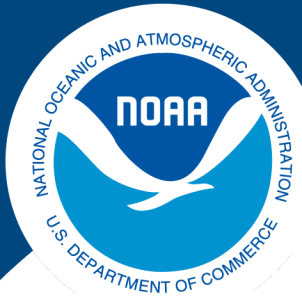
- 1) economic or social importance of the species,
- 2) vulnerability and resilience of the species,
- 3) time elapsed since the last assessment (NMFS advises assessments to be updated at least every five years),
- 4) amount of data available for the assessment,
- 5) potential risk to the stock from the current or foreseeable management regime,
- 6) qualitative trends from surveys (when available).



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Recent SWFSC changes to the CPS assessment and monitoring priorities

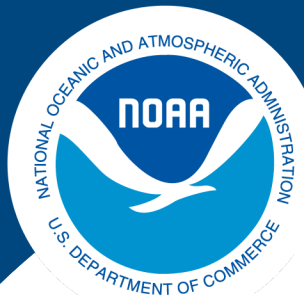
- Primary goal is to develop similar assessments for all Coastal Pelagic Species
- Assessment models would emphasize indices of abundance from critical surveys (ATM and DEPM),
 - Biological-composition data de-emphasized
 - Consistent parameterization of stock parameters across assessments
 - Management strategies should be generally similar across species
- Management categories would be adaptive to changing species depending on population status and fishery operations



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Recent changes in CPS assessment schedule will result in...

- Actively managed species with limited landings for extended periods would be assessed according to a 4-year schedule
- Short-term projections would provide meaningful harvest advice for CPS as update assessments and would be less time consuming
- Assessments for monitored species would develop in phases, e.g., data preparation and literature review, model development, peer review, Council consideration, moving toward a full CPS assemblage assessment (e.g., CPS data preparation meeting held along with 2014 Pacific sardine stock assessment)
- Monitoring of the stocks is conducted on an ongoing basis by two critical surveys (ATM and DEPM) which provide measures of stock status (abundance and productivity) in interim years between formal assessments



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Potential CPS Assessment schedule presented to PFMC November, 2013

Species	Year					
	2014	2015	2016	2017	2018	2019
			→	→	→	
Pacific sardine	Full	Up	Full	Up	Full	Up
Other CPS (data preparation - STAR)	X					
Pacific mackerel		Full	→	Pro	→	Full
Northern anchovy - Northern sub		Full	→	Pro	→	Full
Northern anchovy - Central sub			Full	→	Pro	→
Jack mackerel			Full	→	Pro	→
Market Squid	C	C	C	C	C	C
Full CPS Assemblage including Krill					?	?

LEGEND

Full ≡ Full assessment

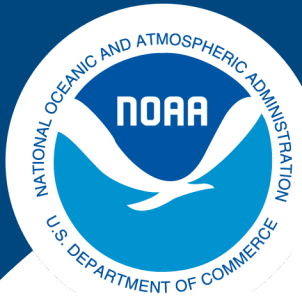
Up ≡ Update assessment

Pro ≡ Projection assessment

C ≡ Catch assessment (CDFW)

X ≡ To be conducted

→ ≡ Harvest advice based on previous assessment (Full, Up, or Pro)

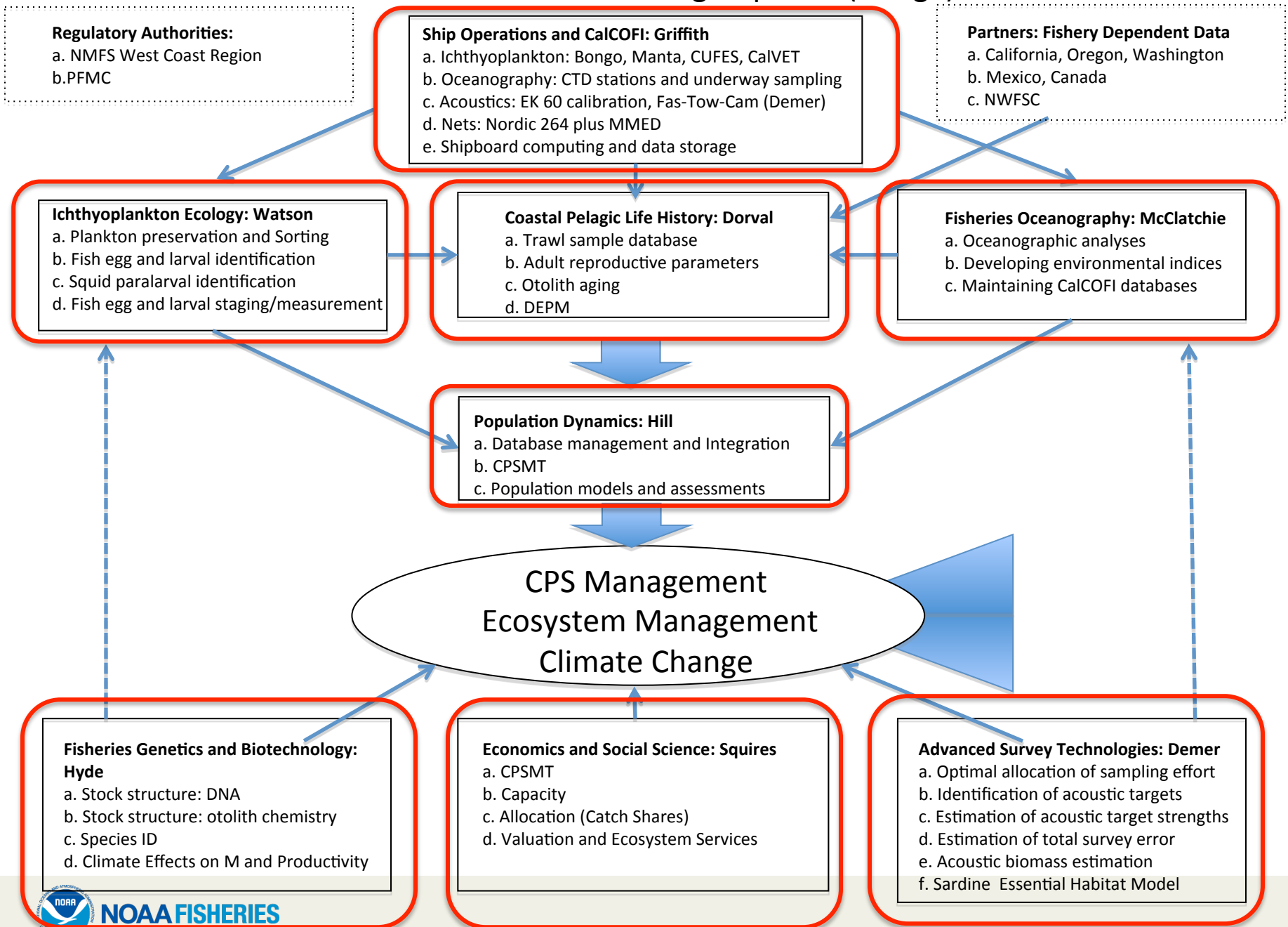


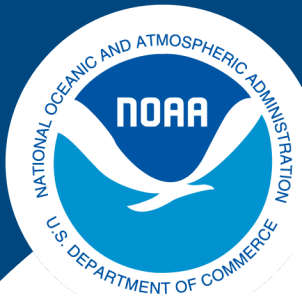
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What programs are used within the SWFSC to complete CPS stock assessments?

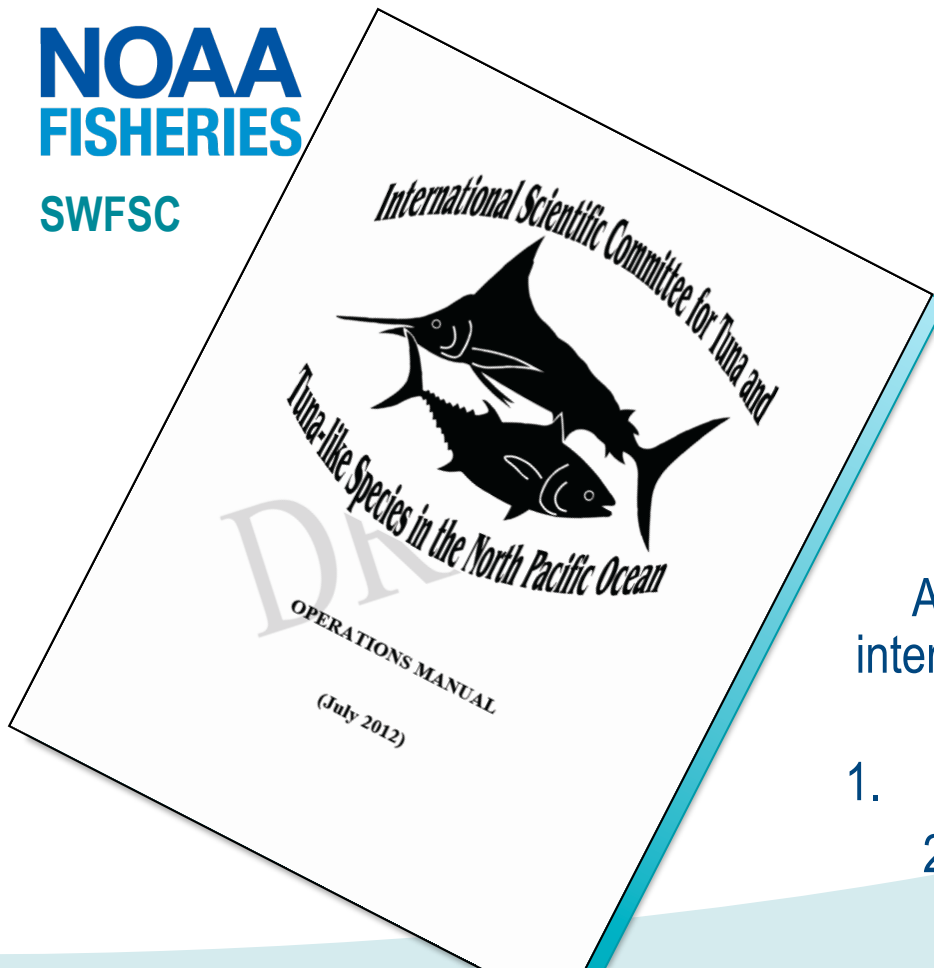
- Within Fisheries Resources Division, multiple teams are used to provide all the information to the stock assessment modelers
- Fishery independent data provided by SWFSC, Fishery dependent data provided by states (port sampling) and countries (Canada and Mexico)
- Management information provided to West Coast Regional Office and PFMC
- Information is integral to ecosystem management and to track climate change

CCLME EBM Coastal Pelagic Species (forage)





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6.1 Prioritizing HMS Assessments

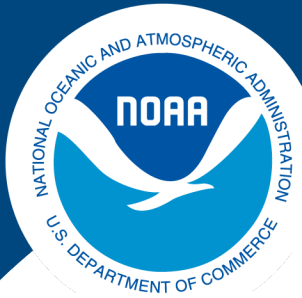
ISC Operations Manual – Purpose and Goals of ISC Stock Assessments:

- to provide scientific advice to resource managers on the current status and future trends in abundance and productivity of exploited marine resources

to provide the technical basis for establishing fishery management measures that achieve optimum yield from the fishery while avoiding overfishing and ecosystem harm

Actual prioritization of HMS assessments in the international arena has not been formalized, but is based on the

1. economic or social importance of the species,
2. vulnerability and resilience of the species,
3. time elapsed since the last assessment.



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What programs are used within the SWFSC to complete HMS stock assessments?

- Within Fisheries Resources Division, multiple teams are used to provide information to the stock assessment modelers
- Fisheries monitoring of dependent data provided by multiple sources (California, Oregon, Washington, Mexico, Canada, WCRO, PIRO, ISC, SPTT)
- Management information provided to NMFS West Coast Regional Office, PFMC, Pacific Islands Regional Office, IATTC, WCPFC, ISC

North Pacific + CCLME HMS Species (predators)

Regulatory Authorities:

- a. NMFS West Coast Regional Office
- b. PFMC - HMSMT
- c. Pacific Islands Regional Office
- d. IATTC
- e. WCPFC
- f. ISC

Fishery Independent Surveys: Kohin

- a. Juvenile Shark Survey (offshore longline)
- b. Thresher neonate survey (inshore longline)
- c. Albacore archival tagging
- d. SLUTH

Partners: Fishery Dependent Data

- a. California, Oregon, Washington
- b. Mexico, Canada
- c. WCRO, PIRO
- d. ISC
- e. SPTT

HMS Biology: Kohin

- a. Age and growth
- b. Diet studies
- c. Electronic tagging & TOPP
- d. Conventional tagging
- e. Habitat and Climate
- f. Bycatch

HMS Population Modeling: Hill

- a. SSC HMS subcommittee
- b. PFMC HMSMT
- c. ISC albacore working group
- d. ISC bluefin working group
- e. ISC shark working group
- f. IATTC, US-Canada treaty

HMS Fisheries Monitoring: Childers

- a. Albacore troll fishery
- b. Albacore bait fishery
- c. SPTT
- d. DGN
- e. Observer program DGN

HMS Management
Ecosystem Management
Bycatch Reduction

Fisheries Genetics and Biotechnology: Hyde

- a. Stock structure: DNA
- b. Stock structure: otolith chemistry
- c. Species ID
- d. Genetic Estimation of Stock Size
- e. Climate effects on M and growth

Economics and Social Science: Squires

- a. HMSMT
- b. SPTT
- c. Capacity
- d. Allocation (Catch Shares)
- e. Ecological Footprint & Bycatch

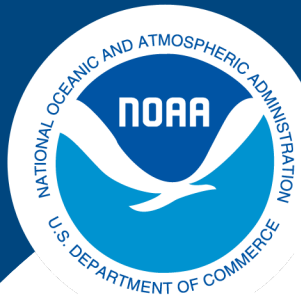
Fisheries Oceanography: McClatchie

- a. Albacore habitat
- b. Fronts and eddies
- c. Climate effects on distribution
- d. Climate effects on productivity



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Are we striking a good balance?



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Assessments

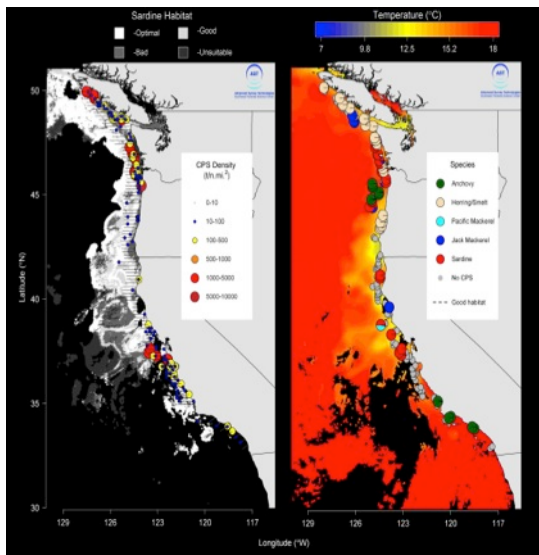
- Adequate assessments for most important species
- Rotating schedule for lightly fished CPS stock assessments allows for additional research

Research

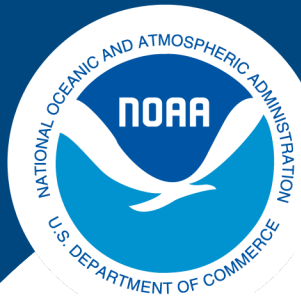
- 55+ publications in last 5 years relating to stock assessments
- Primary research on ecosystem function continues to be a high priority
- Advances in survey technology continues to improve stock assessments (Lasker acoustics, tech tank)

Scientific Engagement

- Strong support for Council & Agency committees, although time demands are high (next slide)
- Support for and training of students and international peers (CAPAM, SIO, FATE)



Program Structure: Portfolio Balance, Suitability



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CPS-HMS
Population
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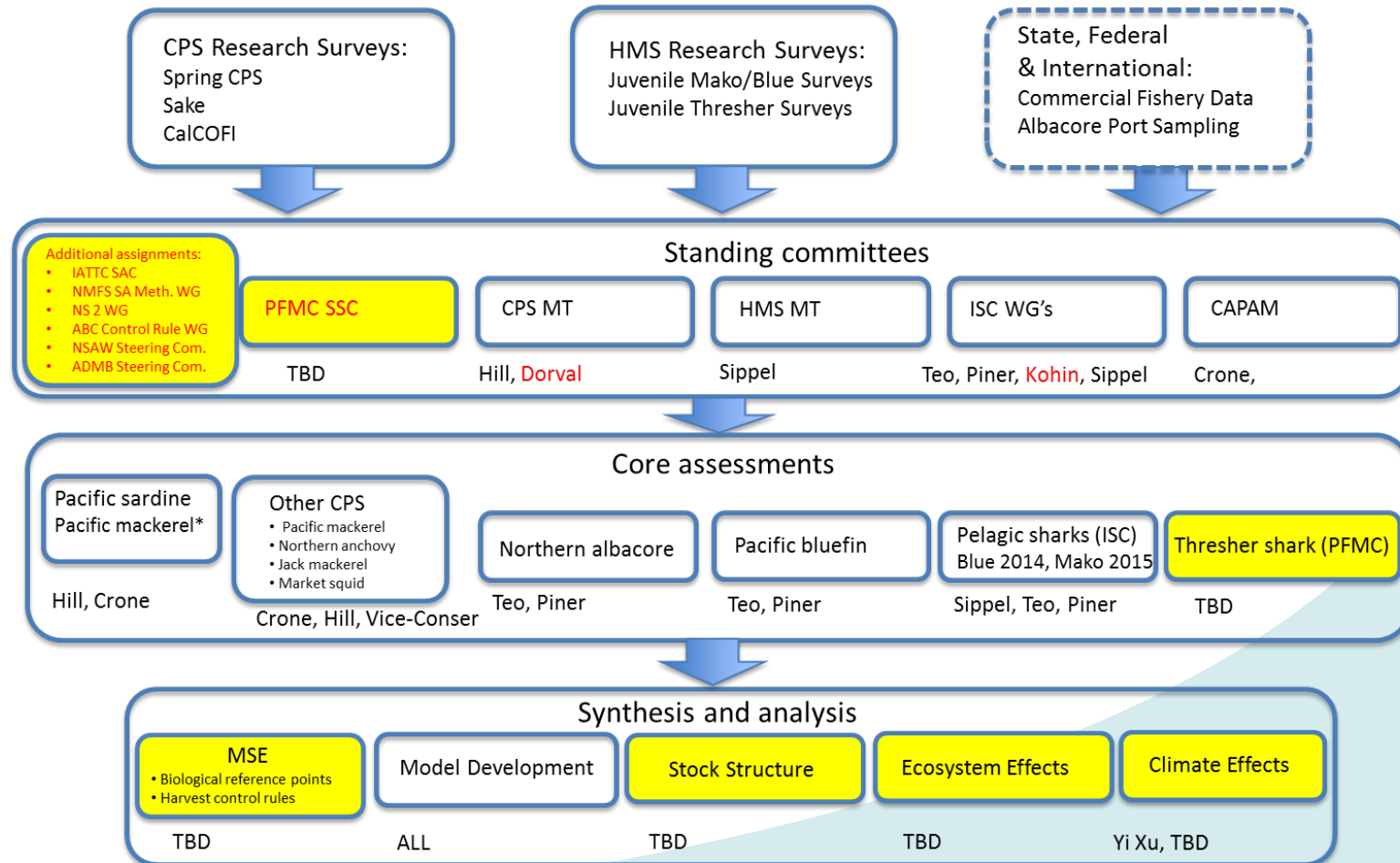
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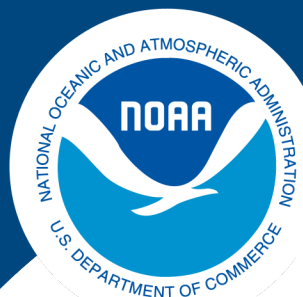
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Unassigned



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Strengths

- Long history of robust assessments using reliable tools, including research on ecosystem function (CalCOFI)
- Prioritization of assessments has been done in close collaboration with PFMC (CPS) and ISC, WCPMC (HMS)
- Balance among assessment workload and other important efforts (survey, methods development, research) not always ideal, but is tractable
- Strong working relationships with State agencies, stakeholders and industry

Challenges

- Workload is almost always greater than resources, many data and analytical support needs, to do the job right
- Shifting from baseline funding to temporary funding makes it difficult maintain long-term mandated assessment work
- Using contractors to represent NOAA in official capacity at PFMC and ISC meetings
- Increase in requests for MSEs and ecosystem models that require additional expertise and funds
- Prioritization for HMS assessments can be ad-hoc, not always perfect agreement of priorities among participants

Strategies for Improvement

- Continue to push to fill FTE positions, especially in data management (2013 MSRA priority) and assessment teams
- Continue to strive to acquire technical expertise in applied assessment skills (e.g., MSEs, ecosystem effects, climate effects)

